APPEAL BRIEF

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Appellant: Kasutani et al.   Examiner: Jayesh A. Patel

Serial No.: 10/516,086   Art Unit: 2624

Filed: November 29, 2004   Docket: 18463

For: IMAGE SYSTEM   Dated: June 23, 2008

Conf. No.: 9654

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450


APPEAL BRIEF

I. Statement of Real Party in Interest

   The real party in interest of the present application is NEC Corporation, the assignee of

the entire right, title and interest in the above-identified patent application.

CERTIFICATE OF ELECTRONIC FILING

   I hereby certify that this correspondence is being deposited with the United States
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Office e-business website, on June 23, 2008.

Dated: June 23, 2008
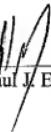
           Paul J. Esatto, Jr.

II. Statement of Related Appeals and Interferences

No other appeals and interferences are known which directly affect, or will be directly affected by, or have a bearing on, the disposition of the pending appeal.

III. Statement of Status of Claims

Claim 1 stands rejected based on 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,052,492 issued to Bruckhaus.

Claim 2 stands rejected based on 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,052,492 issued to Bruckhaus.

Claim 3 stands rejected based on 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,052,492 issued to Bruckhaus.

Claim 4 stands rejected based on 35 U.S.C. § 103(a) as allegedly obvious over Bruckhaus in view of Nagasaka et al.

Claim 5 stands rejected based on 35 U.S.C. § 103(a) as allegedly obvious over Bruckhaus in view of Nagasaka et al.

Claim 6 Canceled

Claim 7 Canceled

Claim 8 Canceled

Claim 9 stands rejected based on 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,052,492 issued to Bruckhaus.

Claim 10 stands rejected based on 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,052,492 issued to Bruckhaus.

Claim 11 Withdrawn

Claim 12 stands rejected based on 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

Claim 13 stands rejected based on 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

Claim 14 stands rejected based on 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

Claim 15 stands rejected based on 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

Claim 16 Canceled

Claim 17 Canceled

Claim 18 Canceled

Claim 19 Withdrawn

Claim 20 Withdrawn

Claim 21 Canceled

Claim 22 stands rejected based on 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

Claim 23 stands rejected based on 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

Claims 1 – 5, 9, 10, 12 – 15 and 22 – 23 are under appeal.

IV. Statement of Status of Amendments

No amendments were made subsequent to the final rejection.

V. <u>Summary of Claimed Subject Matter</u>

The invention with respect to claim 1 comprises an image description system comprising: a feature extracting unit [101] extracting color layout features from respective of frames of an image sequence (e.g., <u>See</u>: FIG. 3 and 10; and page 23, lines 4 – 6); and a representative feature calculating unit [102] calculating a representative color layout feature representative of said image sequence from a group of said color layout features of all frames extracted by said feature extracting unit [101] (e.g., <u>See</u>: FIG. 3 and 10; and page 23, line 25 – page 24, line 2).

The invention with respect to claim 2 comprises an image description system comprising: a feature extracting unit [101] extracting color layout features from respective of frames of an image sequence (e.g., <u>See</u>: FIG. 3 and 10; and page 23, lines 4 – 6); a representative feature calculating unit [102] calculating a representative color layout feature representative of said image sequence from a group of said color layout features extracted by said feature extracting unit [101] (e.g., <u>See</u>: FIG. 3 and 10; and page 23, line 25 – page 24, line 2); and a representative layout feature storage unit [103] storing said representative color layout feature calculated by said representative feature calculating unit [102] (e.g., <u>See</u>: FIG. 3 and 10 – 12; and page 31, lines 14 – 17).

The invention with respect to claim 3 comprises an image description system comprising: a feature extracting unit [101] extracting color layout features from respective of frames of an image sequence (e.g., <u>See</u>: FIG. 3 and 10; and page 23, lines 4 – 6); a representative feature calculating unit [102] calculating a representative color layout feature representative of said image sequence from a group of said color layout features extracted by said feature extracting unit [101] (e.g., <u>See</u>: FIG. 3 and 10; and page 23, line 25 – page 24, line 2); a representative layout feature storage unit [103] storing said representative color layout feature calculated by said

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representative feature calculating unit [102] (e.g., See: FIG. 3 and 10 – 12; and page 31, lines 14 – 17); and a layout feature group storage unit [104] storing said group of color layout features calculated by said feature extracting unit [101] (e.g., See: FIG. 3 and 10; and page 31, lines 17 – 20).

The invention with respect to claim 4 comprises the elements identified with respect to claim 1 above, and further wherein said representative feature calculating unit [102] calculates average values of respective elements of a color layout feature extracted by said feature extracting unit [101] as a said representative color layout feature (e.g., See: FIG. 4 and 6; page 14, lines 8 – 13; and page 24, line 8 – page 25, line 13).

The invention with respect to claim 5 comprises the elements identified with respect to claim 1 above, and further wherein said representative feature calculating unit [102] rearranges values of respective elements of a color layout feature extracted by said feature extracting unit [101] in any of ascending order and descending order, and calculates a median as said representative color layout feature (e.g., See: FIG. 5 and 7; page 14, lines 14 – 20; and page 25, line 14 – page 26, line 19).

The invention with respect to claim 9 comprises an image description software product embodied on a computer-readable medium, said software product having instructions executable on a computer for performing the steps comprising: extracting color layout features from respective of frames of an image sequence; and calculating a color layout feature representative of said image sequence from a group of said color layout features extracted by said feature extracting function (e.g., See: page 15, lines 4 – 12).

The invention with respect to claim 10 comprises an image description method comprising: extracting color layout features from respective of frames of an image sequence; and calculating a color layout feature representative of said image sequence from a group of said color layout features extracted in said extracting (e.g., See: page 15, lines 13 – 21).

The invention with respect to claim 12 comprises an image identification system comprising: a representative layout feature storage unit [103] storing a color layout feature representative of an image sequence as a representative color layout feature; a feature extracting unit [105] extracting color layout features from respective of frames of a query image sequence; a representative feature calculating unit [106] calculating a representative color layout feature representative of said query image sequence from a group of said color layout features extracted by said feature extracting unit [105]; and an image sequence selecting unit [107] selecting a sequence which resembles said query image sequence by comparing said representative color layout feature calculated by said representative feature calculating unit [106] with said representative color layout feature stored in said representative layout feature storage unit [103] (e.g., See: FIG. 3 and 11; page 15, line 22 – page 16, line 5; and page 31, line 26 – page 32, line 20).

The invention with respect to claim 13 comprises an image identification system comprising: a representative layout feature storage unit [103] storing a color layout feature representative of an image sequence as a representative color layout feature; a layout feature group storage unit [104] storing color layout features associated with respective of frames of said image sequence; a feature extracting unit [105] extracting color layout features from respective of frames of a query image sequence; a representative feature calculating unit [106] calculating a representative color layout feature representative of said query image sequence from a group of

said color layout features extracted by said feature extracting unit [105]; an image sequence selecting unit [107] selecting an image sequence which resembles said query image sequence by comparing said representative color layout feature calculated by said representative feature calculating unit [106] with said representative color layout feature stored in said representative layout feature storage unit [103]; and an identification unit [108] matching said group of color layout features extracted by said feature extracting unit [105] against said color layout features stored in said layout feature group storage unit [104] as to said image sequence selected by said image sequence selecting unit [107] (e.g., See: FIG. 3; page 16, lines 6 – 23; and page 31, line 26 – page 33, line 8).

The invention with respect to claim 14 comprises the elements identified with respect to claim 12 above, and further wherein said representative feature calculating unit [106] calculates average values of respective elements of a color layout feature extracted by said feature extracting unit [105] as said representative color layout feature (e.g., See: page 17, lines 21 – 26).

The invention with respect to claim 15 comprises the elements identified with respect to claim 12 above, and further wherein said representative feature calculating unit [106] rearranges values of respective elements of a color layout feature extracted by said feature extracting unit [105] in any of ascending order or descending order, and calculates a median as said representative color layout feature (e.g., See: page 17, line 27 – page 18, line 5).

The invention with respect to claim 22 comprises the elements identified with respect to claim 13 above, and further wherein said representative feature calculating unit [106] calculates average values of respective elements of a color layout feature extracted by said feature extracting unit [105] as said representative color layout feature (e.g., See: page 17, lines 21 – 26).

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The invention with respect to claim 23 comprises the elements identified with respect to claim 13 above, and further wherein said representative feature calculating unit [106] rearranges values of respective elements of a color layout feature extracting unit [105] in any of ascending order or descending order, and calculates a median as said representative color layout feature (e.g., See: page 17, line 27 – page 18, line 5).

VI. Statement of Grounds of Rejection to be Reviewed on Appeal

1. Rejection under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,052,492 issued to Bruckhaus.

2. Rejection under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,400,890 issued to Nagasaka et al.

3. Rejection under 35 U.S.C. § 103(a) as allegedly obvious over Bruckhaus in view of Nagasaka et al.

VII. Statement of Argument

A. Rejection of Claims 1 – 3 and 9 – 10 Under 35 U.S.C. § 102(b)

The rejection of Claims 1 – 3 and 9 – 10 is based on the allegedly anticipatory teachings of Bruckhaus. The Examiner contends that Bruckhaus discloses an image description system (FIG.1 – 3) comprising a feature extracting unit (FIG. 2, 215) extracting color layout features from respective frames of an image sequence; a representative feature calculating unit (FIG. 2, 230) calculating a representative color layout feature representative of the image sequence from a group of color layout features extracted by the feature extracting unit. (See: col. 4, lines 35 – 56, col. 8, lines 24-41 and col. 10, lines 25-46).

Bruckhaus discloses identifying various features in an image, such as a basketball, shirts, etc. Even though color information may play a part in the identification process, Bruckhaus does

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not, however use this color information in calculating a representative color layout feature representative of the image sequence from a group of layout features of all frames extracted. Rather, Bruckhaus discloses that the unit extractor extracts all the units, i.e., an integral set of pixels representing a single physical object in a frame. Of these extracted units a plurality of the most predominant units are composited into a representative image. (See: FIG. 4 – 6b).

Regardless of whether Bruckhaus discloses attributes such as color brightness and motion, no where in Bruckhaus is a representative feature calculating unit disclosed for calculating a representative color layout feature representative of said image sequence from a group of said layout features of all frames extracted by said feature extracting unit.

Color layout feature within the context of the present invention has a specific meaning, which must be considered when asserting that a prior art reference discloses such a feature. Regarding the meaning of color layout feature within this context, Appellants point to FIG. 6 and FIG. 7 for clear examples of color layout values. These color layout values are examples of color layout features in the present invention, and thus provide a definition of the term "color layout features" as used throughout the disclosure and claims. Also, as shown in FIG. 6 and 7, a representative color layout feature representative of an image sequence from a group of layout features of all frames in the image sequence are shown. (See: Total and Average rows in FIG. 6; and Median row in FIG. 7). It is evident from Appellants' disclosure that the color layout features are color component values, such as luminance and color difference.

Moreover, Appellants' disclosure provides clear definition of the term "color layout feature" as applied throughout the specification and claims. Specifically, the specification recites: "[T]hese layout features are defined in the International Standard ISO/IEC 15838-3 MPEG-7 VISUAL…" (See: page 23, lines 4 – 24).

In contrast, Bruckhaus explicitly defines a unit as "...an integral set of pixels representing a single physical object in the frame." (See: col. 4, lines 35 – 50).

Unlike Bruckhaus, which generates a representative image from representative shapes (i.e., physical objects) in the frames, the present invention generates a representative color layout feature, such as a total color feature value, average color feature value or a median color feature value, where these color feature values are essentially color component values as defined in the above-mentioned ISO/IEC standard. Rather than being a combination of shapes representing the image sequence, the representative color layout feature of the present invention is a single color layout feature representative of the color layout features in the image sequence.

Given the fundamental difference in the meaning of "unit" as defined in Bruckhaus and "layout feature" as defined in Appellants' disclosure, one of ordinary skill in the art would not equate one with the other. Therefore, Bruckhaus fails to properly anticipate "...extracting color layout features from respective of frames of an image sequence; and... calculating a representative color layout feature representative of said image sequence from a group of said color layout features of all frames extracted...", recited in Claims 1 – 3 and 9 – 10.

B. Rejection of Claims 12 – 15, 22 and 23 Under 35 U.S.C. § 102(e)

The rejection of Claims 12 – 15, 22 and 23 is based on the allegedly anticipatory teachings of Nagasaka et al. As with Bruckhaus, Nagasaka et al. fails to disclose calculating a representative color layout feature representative of the image sequence from a group of color layout features of all frames extracted. Rather, Nagasaka discloses a frame feature extractor that extracts a feature from each frame and assigns the extracted feature to represent the individual frame from which it was extracted. Thus, the extracted feature is not calculated to represent an image sequence.

In addition, the features that are extracted are not color layout features, as described above and defined within Applicants' disclosure. Rather as described in col. 14, line 37 – col. 15, line 30, these features are physical objects, existence of a camera work, existence of a special effect, existence of a title, etc. No mention is made, however, of color layout features in Nagasaka et al.

Therefore, Nagasaka et al. does not disclose each and every element recited in the present claims. Consequently, Appellants submit that Nagasaka et al. fails to properly anticipate all the features recited in Claims 12 – 15, 22 and 23.

C. Rejection of Claims 4 and 5 Under 35 U.S.C. § 103(a)

The rejection of Claims 4 and 5 is based on the combined teachings of Bruckhaus and Nagasaka et al. However, as discussed above, neither reference discloses calculating a representative color layout feature representative of the image sequence from a group of color layout features of all frames extracted. Therefore, the references, taken alone or in any proper combination fail to disclose the features recited in Claim 1 from which Claims 4 and 5 depend.

VIII. CONCLUSION

It is clear that all of the limitations of Claims 1 – 3, 9, 10, 12 – 15, 22 and 23 are not taught or suggested by the references of Bruckhaus and Nagasaka et al. Accordingly, Appellants submit that the Examiner has failed to establish anticipation of Claims 1 – 3, 9, 10, 12 – 15, 22 and 23 based on the prior art references individually.

Moreover, Appellants respectfully submit, with respect to Claims 4 and 5, that the Examiner has not met the burden of establishing a prima facie case of obviousness based on the prior art, as required by 35 U.S.C. §103(a); no objective teaching in Bruckhaus and Nagasaka et

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al., individually or in combination, would lead an individual of ordinary skill in the art to produce the present invention.

The above arguments establish that Claims 1 – 5, 9, 10, 12 – 15, 22 and 23 on appeal are patentable over Bruckhaus and Nagasaka et al., individually or in any proper combination thereof. In view of the remarks set forth in this Appeal Brief, Appellants respectfully request that the rejections under 35 U.S.C. § 102(b), 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a) citing the aforementioned references made in the Final Rejection dated October 19, 2007, and in the Advisory Action of March 20, 2008, be reversed by the Board of Patent Appeals and Interferences.

Respectfully submitted,

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PJE/DAT

CLAIMS APPENDIX

1. (Previously Presented) An image description system comprising:

a feature extracting unit extracting color layout features from respective of frames of an image sequence; and

a representative feature calculating unit calculating a representative color layout feature representative of said image sequence from a group of said color layout features of all frames extracted by said feature extracting unit.

2. (Original) An image description system comprising:

a feature extracting unit extracting color layout features from respective of frames of an image sequence;

a representative feature calculating unit calculating a representative color layout feature representative of said image sequence from a group of said color layout features extracted by said feature extracting unit; and

a representative layout feature storage unit storing said representative color layout feature calculated by said representative feature calculating unit.

3. (Original) An image description system comprising:

a feature extracting unit extracting color layout features from respective of frames of an image sequence;

a representative feature calculating unit calculating a representative color layout feature representative of said image sequence from a group of said color layout features extracted by said feature extracting unit;

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a representative layout feature storage unit storing said representative color layout feature calculated by said representative feature calculating unit; and

a layout feature group storage unit storing said group of color layout features calculated by said feature extracting unit.

4. (Original) The image description system according to claim 1, wherein said representative feature calculating unit calculates average values of respective elements of a color layout feature extracted by said feature extracting unit as a said representative color layout feature.

5. (Original) The image description system according to claim 1, wherein said representative feature calculating unit rearranges values of respective elements of a color layout feature extracted by said feature extracting unit in any of ascending order and descending order, and calculates a median as said representative color layout feature.

6. (canceled)

7. (canceled)

8. (canceled)

9. (Previously Presented) An image description software product embodied on a computer-readable medium, said software product having instructions executable on a computer for performing the steps comprising:

extracting color layout features from respective of frames of an image sequence; and

calculating a color layout feature representative of said image sequence from a group of said color layout features extracted by said feature extracting function.

10. (Original) An image description method comprising:

extracting color layout features from respective of frames of an image sequence; and

calculating a color layout feature representative of said image sequence from a group of said color layout features extracted in said extracting.

11. (Withdrawn) An image identification system comprising:

a representative layout feature storage unit storing a color layout feature representative of an image sequence as a representative color layout feature; and

an image sequence selecting unit selecting an image sequence which resembles a query image sequence by comparing said representative color layout feature of said query image sequence stored in said representative layout feature storage unit with said representative color layout feature of a registered image sequence stored in said representative layout feature storage unit.

12. (Original) An image identification system comprising:

a representative layout feature storage unit storing a color layout feature representative of an image sequence as a representative color layout feature; a feature extracting unit extracting color layout features from respective of frames of a query image sequence;

a representative feature calculating unit calculating a representative color layout feature representative of said query image sequence from a group of said color layout features extracted by said feature extracting unit; and

an image sequence selecting unit selecting a sequence which resembles said query image sequence by comparing said representative color layout feature calculated by said representative feature calculating unit with said representative color layout feature stored in said representative layout feature storage unit.

13. (Original) An image identification system comprising:

a representative layout feature storage unit storing a color layout feature representative of an image sequence as a representative color layout feature; a layout feature group storage unit storing color layout features associated with respective of frames of said image sequence;

a feature extracting unit extracting color layout features from respective of frames of a query image sequence; a representative feature calculating unit calculating a representative color layout feature representative of said query image sequence from a group of said color layout features extracted by said feature extracting unit;

an image sequence selecting unit selecting an image sequence which resembles said query image sequence by comparing said representative color layout feature calculated by said representative feature calculating unit with said representative color layout feature stored in said representative layout feature storage unit; and

an identification unit matching said group of color layout features extracted by said feature extracting unit against said color layout features stored in said layout feature group storage unit as to said image sequence selected by said image sequence selecting unit.

14. (Original) The image identification system according to claim 12, wherein said representative feature calculating unit calculates average values of respective elements of a color layout feature extracted by said feature extracting unit as said representative color layout feature.

15. (Original) The image identification system according to claim 12, wherein said representative feature calculating unit rearranges values of respective elements of a color layout feature extracted by said feature extracting unit in any of ascending order or descending order, and calculates a median as said representative color layout feature.

16. (canceled)

17. (canceled)

18. (canceled)

19. (Withdrawn) An image identification software product executable on a computer comprising:

computer readable code configured to cause said computer to store a color layout feature representative of an image sequence as a representative color layout feature in a storage unit of said computer; and

computer readable code configured to cause said computer to select an image sequence which resembles a query image sequence by comparing said representative color layout feature of said query image sequence stored in said storage unit with said representative color layout feature of a registered image sequence stored by in said storage unit.

20. (Withdrawn) An image identification method comprising:

storing a color layout feature representative of an image sequence as a representative color layout feature; and

selecting an image sequence which resembles a query image sequence by comparing said representative color layout feature of said query image sequence stored in said storing with said representative color layout feature of a registered image sequence stored in said storing.

21. (canceled)

22. (Original) The image identification system according to claim 13, wherein said representative feature calculating unit calculates average values of respective elements of a color layout feature extracted by said feature extracting unit as said representative color layout feature.

23. (Original) The image identification system according to claim 13, wherein said representative feature calculating unit rearranges values of respective elements of a color layout feature extracting unit in any of ascending order or descending order, and calculates a median as said representative color layout feature.

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EVIDENCE APPENDIX

None

<u>RELATED PROCEEDINGS APPENDIX</u>

None

TRANSMITTAL OF APPEAL BRIEF (Large Entity)	Docket No.
	18463

In Re Application Of: **Eiji Kasutani et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/516,086	November 29, 2004	Jayesh A. Patel	23389	2624	9654

Invention: **IMAGE SYSTEM**

<u>COMMISSIONER FOR PATENTS:</u>

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed on:

April 21, 2008

The fee for filing this Appeal Brief is: **$510.00**

☐ A check in the amount of the fee is enclosed.

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_____
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Dated: **June 23, 2008**

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